

influxTM

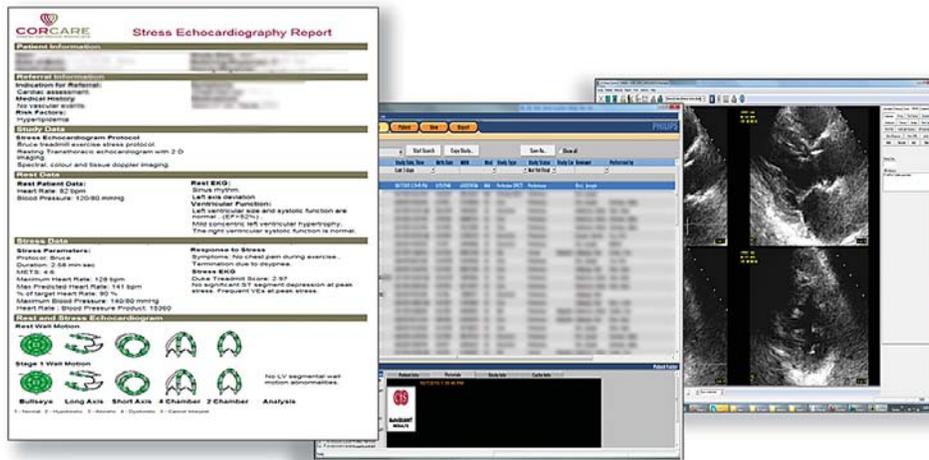
influx

optimizes cardiology
workflow

Influx optimizes workflow in cardiology

Current cardiology practice requires the integration of clinical care with multiple imaging modalities. The workflow necessary to support modern practices is complex and labor intensive. A large investment in hardware and software is required to acquire, store, process, manage, and report. Furthermore, because multiple vendors and disparate technologies are involved, the degree of integration is typically low, and many labor-intensive, manual processes are required.

The Influx Workflow Solutions employ Lean management principles to manage the challenges of a modern cardiac diagnostic environment. The strength of Influx Workflow Solutions resides in its integration of a full range of disparate cardiac imaging techniques within a Lean workflow. Current implementations incorporate echocardiography, EKG, Holter monitors, event monitors, stress and stress echo testing, nuclear cardiology, vascular ultrasound and more, all within this efficient, paperless workflow.



The Influx workflow streamlines processes into a comprehensive Lean management paradigm that includes:

- Management of all imaging modalities in a single, vendor neutral workflow
- Seamless transfer of measurement data and images for review
- Single, intuitive workspace for physicians and staff
- Real-time report generation using an intuitive Influx reporting engine
- Automated export of finalized reports to your information system

Influx allows a physician or technical staff from any workstation, located locally or remotely, to review and report the output from their multi-modality cardiology lab. Imaging studies from all modalities are collated into a central worklist. The worklist, in turn, can be filtered by various parameters such as date, study type,

interpreting physician, etc. Selecting a study from the worklist launches the appropriate viewer for that particular data set, as well as the corresponding finding codes to allow for point-and-click interpretation. Once interpreted and finalized with electronic signature, the report is automatically sent to the referring MD by email or digital fax and stored in an associated EMR/HIS.

The problem

Diagnostic imaging devices have been developed separately over the years by different vendors, without regard to how they're used together in cardiology practices. Busy hospitals and cardiology clinics have to cope with a multitude of imaging devices, provided by different manufacturers, which often must be controlled at workstations that are linked to a specific type of device. Most of these devices don't include even basic report generation tools to read and report on these studies.

Cardiologists are currently forced to work on multiple workstations to obtain studies from different modalities using standard and non-standard formats, including video; they are also using monitor-based displays and paper output. However, most workstations lack reporting capabilities, and as a result, the physician is required to capture and report findings via dictation and transcription. Transcribed reports are most frequently processed manually by staff, with scanning and electronic transmission by fax of private medical reports to the referring physician. The process is inefficient, labor intensive, time-consuming, expensive and error prone. Due to the many different processes involved, report turnaround time is suboptimal, typically exceeding five working days!

There is a growing need for timely access to high-quality and integrated multimodality imaging. The traditional multimodality process, with its many manual steps, lacks the efficiency and scalability to respond to the increasing prevalence of cardiovascular disease, the increasing scope of medical imaging and the needs of clients. Clients, including patients and physicians, have an expectation that their needs can be met efficiently. They are less willing to accept the traditional lack of timely communication and siloed access to care.

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How Influx works

Influx developed its workflow system over the past decade and has refined its integration with Philips's leading cardiology image management system, Xcelera. Using standards-based methods to ensure interoperability,

the Influx workflow solution allows multiple modalities to be reviewed and reported on by deploying specialized Influx tools and Xcelera's robust image management and intuitive user interface. The result is a seamless workflow for comprehensive cardiology diagnostic reporting.

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Influx is vendor-agnostic and will work with virtually all diagnostic imaging equipment. Influx's development team employs DICOM and HL7-compliant interfaces to support the Influx workflow for devices of various vendors, including Philips, GE, Siemens, Quinton, Mortara and other manufacturers.

Using DICOM technology, Influx pulls images and measurement data from imaging devices into the Xcelera workflow. The solution includes a report viewer and a very efficient, structured reporting tool with specialized finding codes to generate reports. Cardiologists can view all multi-modal studies at a single workstation, and create consistent diagnostic reports without the need for paper documents.

Once the physician completes a diagnostic report, the diagnostic images and report are stored electronically within the Xcelera database. Additionally, Influx has capabilities for integration of the report and measurement data with facility information systems for billing, medical records and report distribution.

At present, Influx clients require Philips Xcelera installed to implement Influx workflow. However, this will not be necessary in the next version of Influx 2.0, slated for release in 2016, as Influx is developing an interface that expands its application to non-Xcelera-based facilities.

Benefits of using Influx

Improved quality: In manual processing, every human intervention has the potential to introduce error. In paper-based, manual systems using transcriptions, there are typically 8 to 30 'touches' by technicians, support staff, transcriptionists and doctors before the final consult letter is received by a client. Errors rates exceed 25% in the best facilities, and delays occur regularly. With Influx, current clients report error rates and complaints below 5% of volume

Standardized Reporting: Most professional organizations strongly support standardized reporting nomenclature and formatting to improve the clinical value and appropriate use of tests. Influx provides a consistent, standardized report compliant with published guidelines and the clients 'brand'.

Turnaround time is reduced dramatically: With Influx Workflow for Cardiology, a cardiologist working with one technician can conduct the test and have a report ready in less than one hour, vastly decreasing turnaround times and improving patient care.

Increased staff efficiency: Influx has proven its worth. Technicians and physicians who are freed from moving paper spend more time on clinical duties, further amplifying their efficiency. Technician throughput, quality of work and work satisfaction are all increased. Within six months of implementation, Corcare cardiologists were able to reduce their non-imaging administrative overhead for technical staff by nearly 90%.

Administrative costs are reduced: When manual workflows are replaced by Influx's workflow, dictation and transcription are no longer needed. Reports can be transmitted electronically via digital fax, which eliminates courier and mailing costs and further reduces the need for non-clinical resources. The return on investment related to direct administrative costs alone for Corcare was less than 12 months

Increased Physician Efficiency: Cardiologists employing the efficiency of the Influx reporting workflow are more productive. Physicians are able to review images more comprehensively and generate a report more efficiently, resulting in significantly better throughput with higher quality reports.

The environmental impact of a cardiology office is reduced: Influx helps cardiology offices go green by reducing the enormous quantities of paper they consume. A single Influx system eliminates paper generated from all modalities, which stops wasteful consumption and reduces paper costs to less than 5%

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Influx Efficiency Calculator

Upfront investment in an Influx system results in many years of quantifiable and tangible annual returns because it eliminates or reduces a multitude of costly inefficiencies.

However, the return on investment (ROI) is variable and depends on the many different factors at work in a specific cardiology practice: the number of modalities offered, number of devices in each category, the number of studies that are conducted, types of manual steps used to process reports, and so on.

At Toronto-based Corcare cardiology clinics, management invested \$170,000 to implement Influx. The practice recouped this investment in 18 months, and its ROI is \$100,000 in recurring annual savings.

To assist clients in determining their savings for their particular practices, Influx has documented the typical steps involved in cardiology workflow in a dynamic spreadsheet called the Efficiency Calculator to allow potential clients to calculate a fact-based cost-savings forecast, based on the variables that correspond with a specific clinic or hospital.

The Efficiency Calculator can be used to generate tailored results. By inputting specific costs, it will compute the recurring annual savings the practice will experience if it implements Influx.

By inputting these variables, the Efficiency Calculator will generate tailored results, computing the recurring annual savings the practice will experience if it implements Influx. Exact savings can be measured by inputting specific costs associated with a particular clinic or hospital evaluation.

Every step of the process is detailed for each type of study in the spreadsheet, which quantifies each step and affixes a value to generate the total cost. For example, every step for manual processing of an ECG – the technician acquires the study, the equipment generates a paper report, which is passed on to the cardiologist, and so on – is laid out. The Efficiency Calculator will generate totals based on the cost per hour of a technician, the cost of the paper, and other values input by the client. Each process multiplied by the number of times the client conducts a study adds up to a total cost for that modality.

Implementing Influx eliminates most of these steps and their associated costs, so clients can get a detailed breakdown of the cost-savings generated by the software. For example, manual processing of ECGs may cost \$200,000 annually, but Influx eliminates 50% of the steps, so the savings will immediately translate to \$100,000.

The Influx Efficiency Calculator has been designed to simplify the calculation of the cost-benefits of Influx, and to allow clients to see in detail how Influx can financially improve cost of ownership and operational savings. The Efficiency Calculator is available on the Influx website or a detailed analysis of your operations can be scheduled with an Influx representative.

To access the calculator, visit: www.influxworkflow.com

To view a video that illustrates Influx's workings: www.influxworkflow.com

For more information please contact: info@influxworkflow.com